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Penn et al.

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(54) **ROBOTIC LOGISTICS SYSTEM**

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(58) **Field of Classification Search**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,535,793 B2 3/2003 Allard
6,584,375 B2* 6/2003 Bancroft A47F 10/00
235/383

(Continued)

FOREIGN PATENT DOCUMENTS

WO WO 2014/138472 9/2014

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ABSTRACT

A robotic logistics system is disclosed. The system includes multiple robots each having an image capture unit and a server communicatively coupled to the multiple robots. The server is configured to transmit a location of a first item to a first robot and the location of a second item to a second robot; track the positions of the first robot and the second robot; transmit a first image of the first item captured by the first robot to an operator device; receive a first verification signal from the operator device in response to the first image; transmit a second image of the second item captured by the second robot to the operator device; and receive a second verification signal from the operator device in response to the second image.

20 Claims, 8 Drawing Sheets

